REMARKS

I. Status of the Claims

Claims 1, 3 and 4-16 are pending. Claim 2 was previously canceled. Claims 5 and 17-19 are newly canceled. Claim 1 has been amended to recite the subject matter of canceled claims 5 and 17. The dependency of claims 6 and 7 have been amended so as not to depend from canceled claim 5.

Claim 11 has been amended to clarify that the vinyl-urethane copolymer is in an aqueous dispersion or aqueous solution.

No new matter has been added by way of the above-amendment.

II. Issues under 35 USC § 112

Claims 18 and 19 are rejected under 35 U.S.C. 112, first and second paragraphs, as allegedly failing to comply with the written description requirement and for allegedly being indefinite. In view of the cancellation of claims 18-19, these rejections are rendered moot.

III. Prior Art Based Issues

The following prior art based Rejections (A)-(C) are pending:

(A) Claims 1 and 3-10 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2003-238795 to Mori et al. with supporting evidence and definition from the instant specification;

(B) Claims 1 and 3-10 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 2004-035590 to Nomura et al. with supporting evidence and definition from the instant specification; and

(C) Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-238795 to Mori et al. with supporting evidence and definition from the instant specification, further in view of U.S. Patent No. 5,118,752 to Chang et al.

Applicants respectfully traverse the Rejections (A), (B) and (C).

Without conceding to the Examiner's rejections, but rather to advance prosecution, Applicants have amended claim 1 to recite the subject matter of claims 5 and 17. In other words, claim 1 now recites: a) that the urethane polymer (A) having at least one silicon-containing hydrolyzable group is an alkoxysilylated urethane polymer (A1) containing at least one hydrophilic group; and b) that the vinyl-urethane copolymer is in an aqueous dispersion. Applicants respectfully submit that Rejections (A) and (B) are rendered **moot**, in view of the fact that claim 1 recites the subject matter of claim 17 (a claim which was not listed in Rejections (A) and (B)).

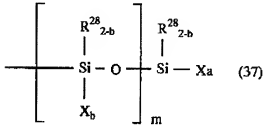
Applicants now discuss the cited references.

III – A. Mori

A feature of the invention of Mori is a curable resin composition comprising silylated urethane resin (A), vinyl polymer (B) and modified silicone resin (C), wherein the vinyl polymer (B) has one or more reactive silyl group (i) and one or more nitrogen atom or one or more sulfur atom (ii) in the molecule (claim 2).

Another feature of the invention of Mori is a method for producing curable resin composition comprising polymerizing vinyl polymer (B) in the presence of silylated urethane resin (A) and/or modified silicone resin (C) (claims 3-6).

The reactive silicon group in the modified silicone resin (C) is defined as shown in [chemical formula 37] of paragraph [0060]. This formula is as follows:



(37)

Paragraph [0069] of Mori discusses the curing catalysts. A proper translation[1] of paragraph [0069] reads as follows:

[1] Applicants note that there are differences between the quoted portion of the translation of paragraph [0069] of Mori given herein when compared to the machine translation provided by the Examiner.

> "organotin compounds, metal complexes, basic compounds, the organic phosphorous compound and water (moisture in air) can be used as the above-mentioned catalyst".

Although there is no clear statement, the curing mechanism of the "curable resin composition" is the one by "de-alkoxy condensation reaction of the hydrolyzable silyl group by moisture".

Mori defines the effects of his invention as follows:

- Excellent peel strength and adhesion strength from and to various adherents;
- Excellent expansion of the cured articles;
- Excellent bond strength after predetermined duration (open time) after application; and
- Low viscosity

III – B. Nomura

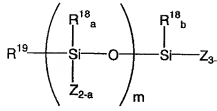
Turning to Nomura, a feature of the invention of Nomura is a contacting type silicone resin adhesive containing silylated urethane resin (A) and moisture curable resin (B) at a defined ratio, wherein the moisture curable resin (B) consists of a (meth)acrylate alkylester polymer having intramolecular reactive silicon groups (i) and oxyalkylene polymer having intramolecular reactive silicon groups (ii) (claim 1).

Paragraph [0038] of Nomura discusses the above-mentioned acrylic polymer having reactive silicon groups. A proper translation[2] of paragraph [0038] reads as follows:

> "the reaction may also be performed in the presence of an oxyalkylene polymer having reactive silicon groups (ii) that can be crosslinked".

As a method of introducing the reactive silicon groups into the above-mentioned acrylic polymer having reactive silicon groups (i), paragraph [0040] explains that a compound shown by general formula (16) below, i.e., "compound having the above-mentioned polymeric unsaturated bonds and the reactive silicon groups" may be used.

[2] Applicants note that there are differences between the quoted portion of the translation of paragraph [0038] of Nomura given herein when compared to the machine translation provided by the Examiner.



(16)

In a proper translation[3] of [0040] of Nomura, R^{19} is "organic residue having one or more polymeric unsaturated bond(s)" and m is an integer of 0-18. The compound is indicative of a so-called acrylic silane compound and the vinyl silane compound.

Similar to that of Mori, paragraph [0059] of Nomura describes the curing catalyst. In a proper translation[4] of [0059], Nomura teaches:

> "the organotin compounds, the metal complexes, the basic compounds, the organic phosphorous compounds, and water (moisture in air) can be used as the above-mentioned curing catalyst that can optionally be contained".

The technology disclosed by the whole specification is "Contacting-type moisture-curable resin adhesive."

Nomura defines the effects of his invention as follows:

- Short tuck expression time
- High bonding strength immediately after tuck expression
- Long tuck range
- Long adhesion
- Excellent adhesion to wide variety of nonporous materials such as metals, plastics, and rubbers

[3] Applicants note that there are differences between the quoted portion of the translation of paragraph [0040] of Nomura given herein when compared to the machine translation provided by the Examiner.
[4] Applicants note that there are differences between the quoted portion of the translation of paragraph [0059] of Nomura given herein when compared to the machine translation provided by the Examiner.

III – C. Mori and Nomura and Chang

With respect to the teachings of Mori and Nomura, by mixing and making complex acryl resins to moisture curable resins (silylation urethane resins and transformation silicone resins), both of these technologies aim to provide:

(1) sticking adhesive property (contacting adhesive property) by internal plasticization;

(2) improvement of adhesive property of various adhesives; and

(3) low viscosity.

When a polymer consisting only of the acrylic monomers is used, the acryl resins often bleed out (seep) after their curing. Therefore, the acrylic monomers having the reactive silicon groups (hydrolyzable silyl groups) are used to copolymerize with the acryl resin. It is notable that resulting curable resin or adhesive is the moisture curing type (reactive and curable with moisture in air), and non-aqueous.

With respect to Chang, Chang only discloses the conventional hair styling products.

III - D. Patentable Distinctions Between the Present Invention and the Cited References

According to MPEP 2143.01, "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification."

The technology of the present invention is quite different from the technology of Mori and Nomura. The present invention relates to "the water based technology where water act as a dispersion medium." On the contrary (as described above), the inventions disclosed in the cited references relate to "moisture curable resin" that is, nonaqueous system in which the existence of water or moisture is unfavorable.

The curable resin compositions described in the cited references (Mori and Nomura) are all "moisture curable type". Thus the curable resin composition is produced under the moisture-excluding conditions as much as possible and stored in airtight containers such as tubes. For instance, when the composition is used as an adhesive, the composition is applied on the surface of the adherence material, and the alkyl alkoxysilyl groups that exist in the resin molecule condense and cure with moisture in air with the de-alcoholization.

On the other hand, vinyl-urethane copolymer of the present application is an aqueous dispersion or aqueous solution, and has a feature that "the vinyl-urethane copolymer can form coatings and other cured articles excellent in hot-water resistance, water resistance, heat resistance, and weather resistance, even though it is a water-based substance." (See the disclosure of the present invention).

Conventionally, even if the technology such as is disclosed in the cited references (Mori and Nomura) is known, one skilled in the art would avoid adding water intentionally to the curable resin composition of the moisture cure type, ***since adding water would render it unsuitable for its intended purpose***. Moreover, no one could predict or expect that when the polymer of Mori and/or Nomura is prepared in the aqueous emulsion, the polymer exerts the features described above (hot-water resistance, water resistance, heat resistance, and weather resistance). Therefore, the technology of the present invention is novel and unobvious over the technology such as the cited literatures (Mori and Nomura).

III - D. Claims 11-16

Regarding claims 11-16 of the method for producing a vinyl-urethane copolymer, the Examiner asserts that the claims are unpatentable over Mori with supporting evidence and definition from the instant specification, further in view of Chang et al. under 35 U.S.C. 103 (a). However, the artisan would not find it obvious that the nonaqueous "moisture curable resin composition" of Mori as described above and "the aqueous suspension" of Chang should be combined even if both of the cited references belong to the same technical field of adhesives.

Therefore, Applicants believe that the combination of references is improper and is based on improper hindsight reasoning.

III – E. Conclusion

In view of the foregoing, a *prima facie* case of anticipation and obviousness cannot be said to exist. Reconsideration and withdrawal of Rejections (A), (B) and (C) are respectfully requested.

IV. Priority Under 35 U.S.C. § 119

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. § 119, and receipt of the certified priority document in the May 15, 2009 Office Action.

V. Information Disclosure Citation

Applicants thank the Examiner for considering the references supplied with the Information Disclosure Statement filed June 1, 2006, and for providing Applicants with an initialed copy of the PTO-SB08 form filed therewith.

VI. Obviousness-Type Double Patenting Rejection

Claims 1 and 3-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 6-8 of copending Application No. 12/306,887 to Shimizu et al. in view of JP 2003-238795 to Mori et al.

A complete discussion of the Examiner's rejection is set forth in the Office Action, and is not being repeated here.

Applicants respectfully note that prosecution is still underway in copending Application No. 12/306,887.

Furthermore, the present application is the earlier filed application and copending Application No. 12/306,887 is the later-filed application. According to MPEP 804:

> If a "provisional" nonstatutory obviousness-type double patenting (ODP) rejection is the only rejection remaining in the earlier filed of the two pending applications, while the later-filed application is rejectable on other grounds, the examiner should withdraw that rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer. If the ODP rejection is the only rejection remaining in the later-filed application, while the earlier-filed application is rejectable on other grounds, a terminal disclaimer must be required in the later-filed application before the rejection can be withdrawn.
>
> If "provisional" ODP rejections in two applications are the only rejections remaining in those applications, the examiner should withdraw the ODP rejection in the earlier filed application thereby permitting that

> application to issue without need of a terminal disclaimer. A terminal disclaimer must be required in the later-filed application before the ODP rejection can be withdrawn and the application permitted to issue. If both applications are filed on the same day, the examiner should determine which application claims the base invention and which application claims the improvement (added limitations). The ODP rejection in the base application can be withdrawn without a terminal disclaimer, while the ODP rejection in the improvement application cannot be withdrawn without a terminal disclaimer.

As such, the Examiner is respectfully requested to hold this rejection in abeyance, and if applicable, make the rejection in the later filed copending Application No. 12/306,887 to Shimizu et al.

VII. Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, PhD, Registration No. 43,575 at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: January 31, 2011

Respectfully submitted,

By 
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